R12S Hardware Manual

Release 3.0/1.0

Embention Sistemas Inteligentes, S.A.

2026-08-25

Contents

Scope of Changes

- Version 1.0
  - Added:
    - First version issued

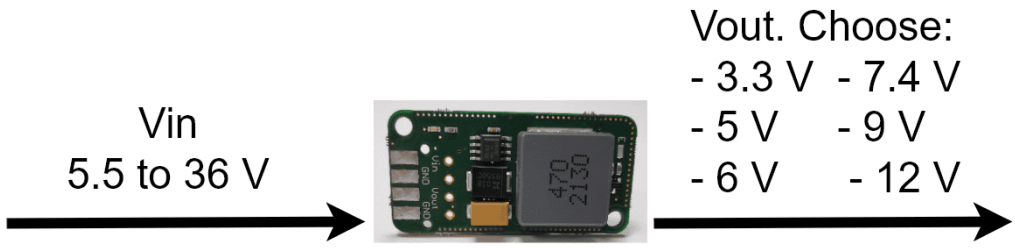
Introduction

R12S

Veronte R12S is a redundant DC-DC converter with different output voltage options that user can choose with a switch: 3.3, 5, 6, 7.4, 9 or 12 V.

Quick Start

This user manual covers the mechanical and electric assembly of **Veronte R12S**. To use it, weld input and output wires according to the Pinout section, then fix it to the assembly frame with two M3 screws.



Input and output diagram

Warnings

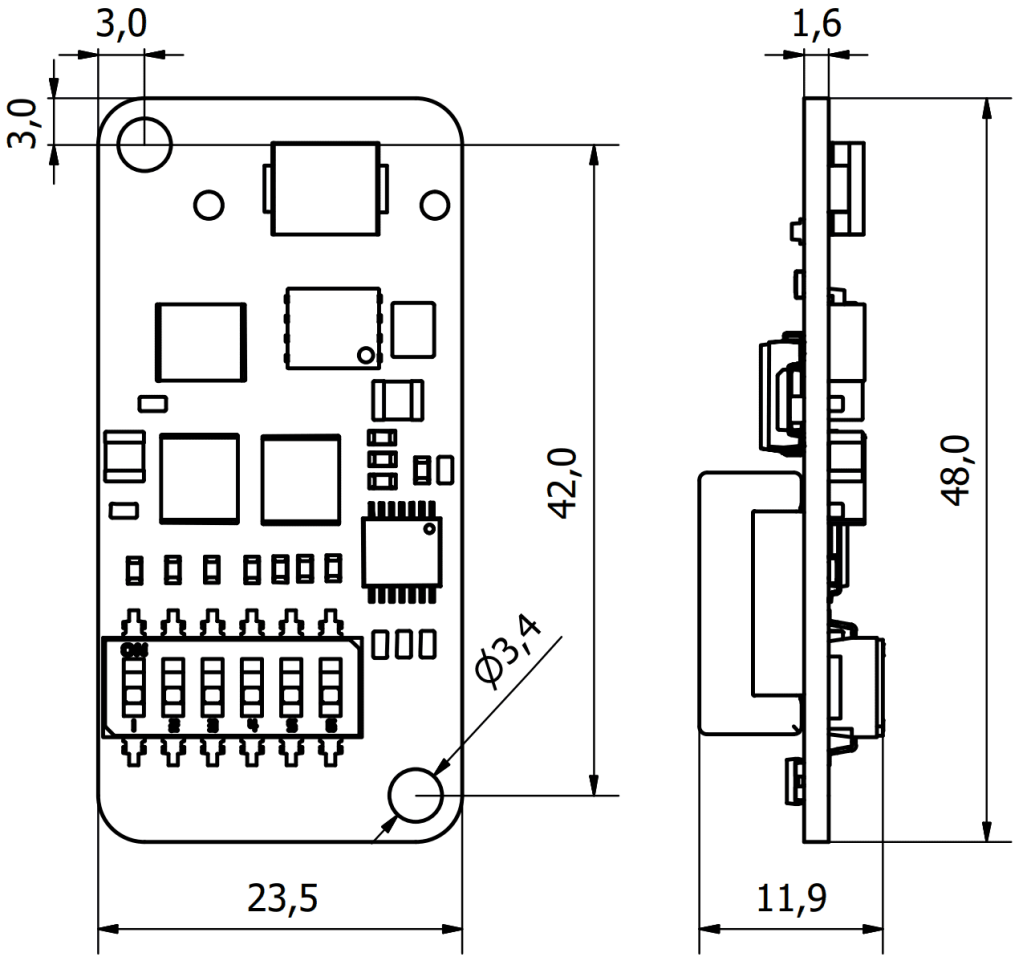
- If all switches are **off** or there is more than one **on** switch, the output voltage will not be defined.
- In saline environments such as coastal and oceanic, the screw material must be stainless steel.
- The power supply must be higher than the desired output voltage (but not higher than 36 V or lower than 5.5 V).

Technical

Mechanical Specifications

- Temperature range: -40 to 85 °C.
- Weight: 19 g.

Dimensions



Electrical Specifications

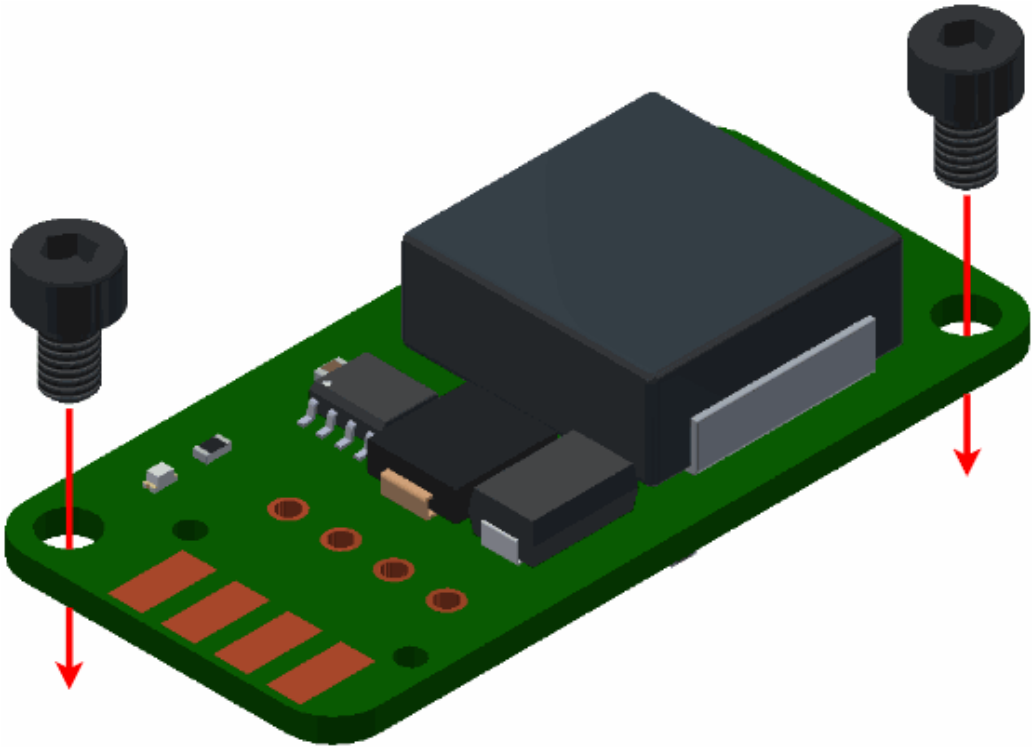
Property	Value
Input voltage range	5.5 to 36 V
	5 A

Property	Value
Output continuous current	
Output peak current	5 A
Output voltages	Choose between: 3.3, 5, 6, 7.4, 9 or 12 V

Hardware Installation

Mechanical assembly

M3 screws are recommended for mounting. In saline environments such as coastal and oceanic, the screw material must be stainless steel.



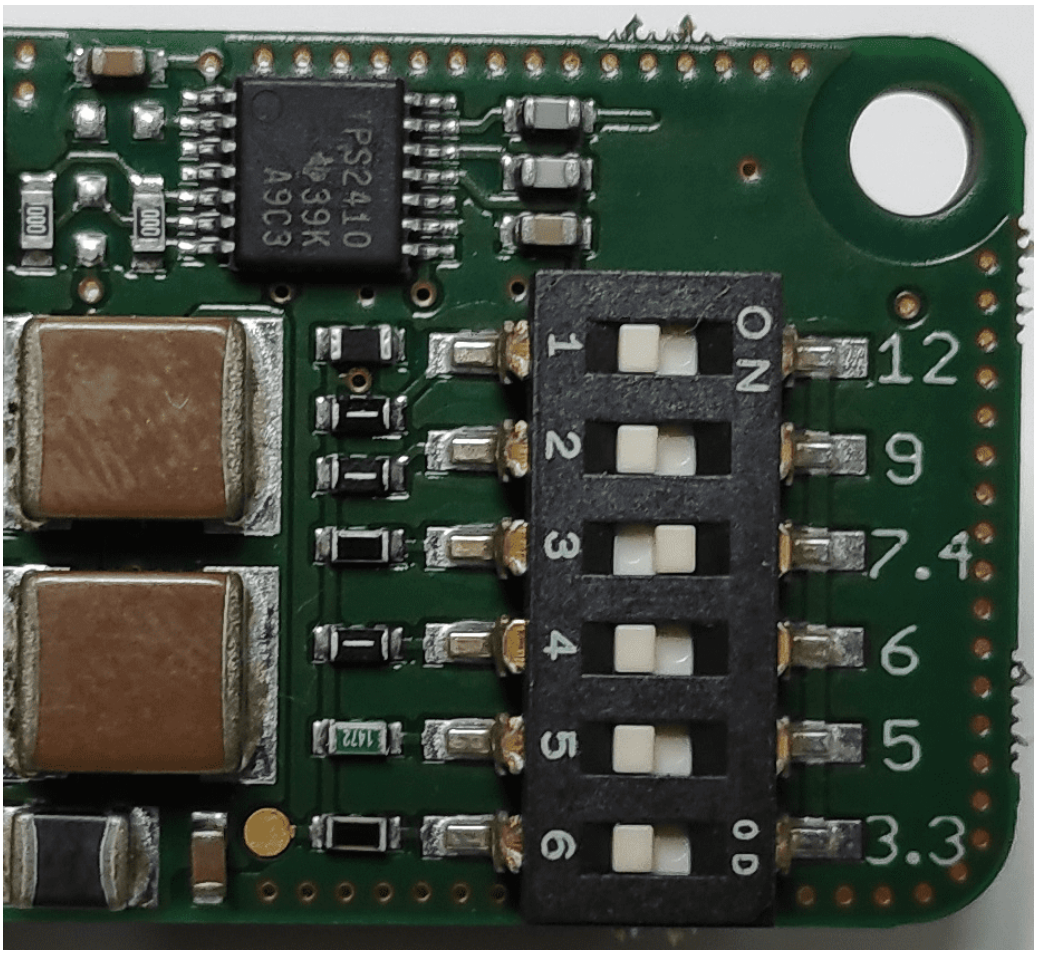
R12S assembly

Electrical

Power

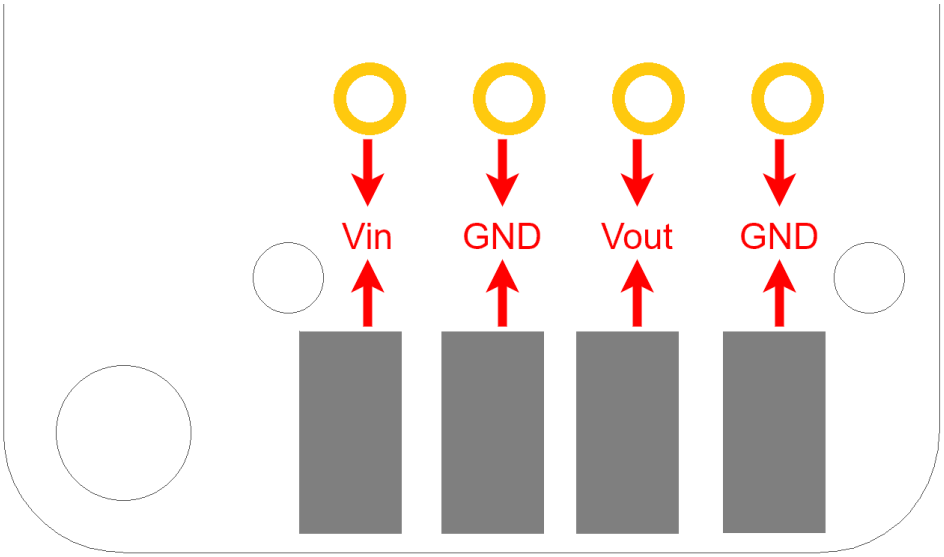
The output voltage can be chosen between 3.3, 5, 6, 7.4, 9 or 12 V. Nonetheless, the input must be higher than the desired voltage (but not higher than 36 V or lower than 5.5 V), since **Veronte R12S** cannot obtain more voltage than supplied.

To choose the output voltage, set the corresponding switch to **on** and the rest to **off**. If all switches are **off** or there is more than one **on** switch, the output voltage will not be defined.



Example of 7.4 V

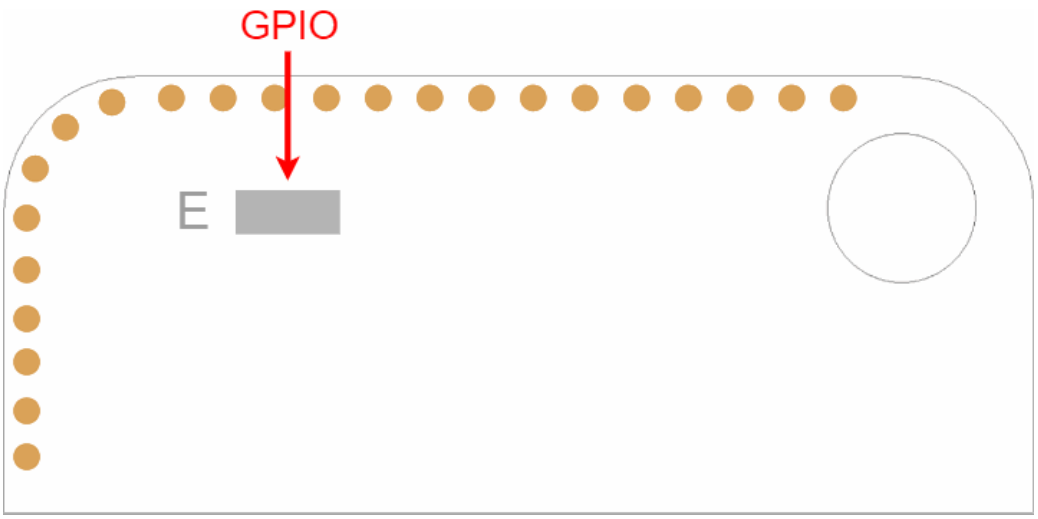
Pinout



- **Vin:** Input voltage supply.
- **GND:** Ground. All ground holes and pads are common (they are connected each other).
- **Vout:** Output voltage.

The user can weld cables to holes, pads or both; since they are connected.

In addition, an "**E**" **pad** has been installed on the board:



This pad allows users to enable or disable the voltage output of the **Veronte R12S**, allowing connected subsystems to be **turned ON** or **OFF** from the **Veronte Autopilot 1x GPIO** outputs.

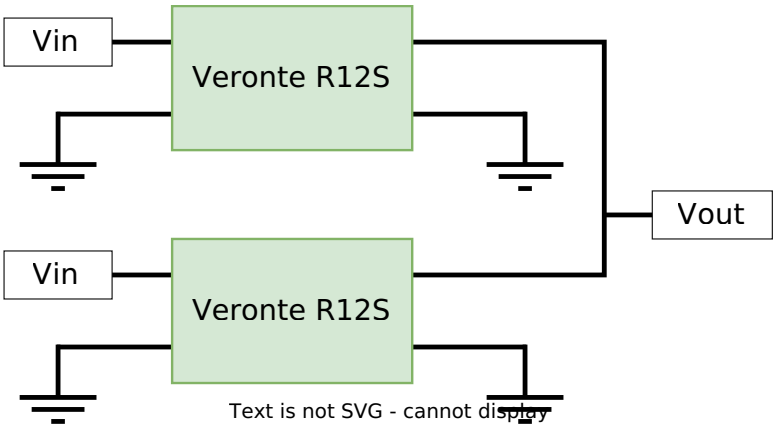
- Setting the GPIO connected to "E" to **LOW** ⇒ **Enables** the output voltage (Vout)
- Setting the GPIO connected to "E" to **HIGH** ⇒ **Disables** the output voltage (Vout)

Users can find information on how to create an automation in **Autopilot 1x** to change the status of a GPIO in the Output (Actions) - Automations section of the **1x PDI Builder** user manual.

> ⓘ **Note**
>
> This functionality is **optional**, it is not necessary to use it for correct operation.

Redundancy

Veronte R12S can be implemented with redundancy, so more than one **R12S** can be connected in parallel (with the same output voltage).



Parallel diagram

Maintenance

Apart from cleaning, no extra maintenance is required to guarantee the correct operation of **Veronte R12S**.

In order to clean **R12S** properly follow the next recommendations.

- Turn off the device before cleaning.
- Use a clean, soft, damp cloth to clean the unit.
- Do not immerse the unit in water to clean it.

Acronyms and Definitions

DC-DC	Direct Current to Direct Current

Contact Data

For support-related inquiries, customers have access to a dedicated portal through the Joint Collaboration Framework. This platform facilitates communication and ensures traceability of all support requests, helping us to address your needs efficiently.

For other questions or general inquiries, you can reach us via email at sales@embention.com or by phone at (+34) 965 115 421